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Improvements in the World Bank's Ease of Doing Business Rankings

Do they Translate into Greater Foreign Direct Investment Inflows?

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Abstract

The World Bank's Ease of Doing Business reports have been ranking countries since 2006. However, do improvements in rankings generate greater foreign direct investment inflows? This study is the first to test such a proposition empirically with Arellano-Bond dynamic panel estimators using the official rankings from 2006 to 2009. The paper shows this relationship is significant for the average country. However, when the sample is restricted to developing countries, the results suggest an improved ranking has, on average, an insignificant (albeit positive) influence on foreign direct investment inflows. Although robust, this result should be taken with caution given that it refers to the average developing country using data across a four-year time period. Finally, the paper demonstrates that, on average, countries that undertake large-scale reforms relative to other countries do not necessarily attract greater foreign direct investment inflows. This analysis may have important ramifications for developing country governments wanting to improve their Doing Business Rankings in the hope of attracting foreign direct investment inflows.

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Improvements in the World Bank's Ease of Doing Business Rankings: Do they Translate into Greater Foreign Direct Investment Inflows?

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1. Introduction

A large body of literature argues that foreign direct investment (FDI) promotes economic growth (Adams 2009, Alfaro 2000, Borensztein, De Gregorio and Lee 1998 and Basu and Guariglia 2007). Alfaro (2003:1) contends it can "be a source of valuable technology ... which can help jump start an economy" while Wacziarg (2001) suggests FDI perpetuates trade benefits which then promote economic growth.

Some even argue FDI is important for alleviating poverty. Tambula (2004) states increased tax revenues from FDI results in poverty reduction, Gohou and Soumare (2011) find FDI has more impacts on welfare in poorer countries than wealthier countries while Mahmoud (2010) claims FDI has been a key source of employment for women in developing countries. Masron and Abdullah (2010:115) notes "Foreign direct investment (FDI) is strongly believed to have a major role to play in the economic development of emerging markets".

How then can countries improve their FDI inflows? Since 2004, the World Bank Group has published data on the Ease of Doing Business in selected countries while in 2006 it has started ranking countries according to their Ease of Doing Business. Although the World Bank does not argue that improvements in the rankings attract FDI, the rankings have a signalling effect with governments, institutions and media. For example, a newspaper article quotes the International Monetary Fund Representative for Sri Lanka and the Maldives claiming Sri Lanka requires a higher ranking than India to attract FDI Inflows (Jayasinghe 2011) while another states "Kenya has dropped three positions in the World Bank's ranking for ease of doing business handing other east African peers an upper hand in the battle for attracting foreign direct investments" (Omondi 2011). Despite such claims, there appears to be no rigorous panel study investigating whether improvements in the official rankings improve FDI inflows.

This paper uses a panel data set of approximately 84 countries from 2006 to 2009 to show on average, improvements in the World Bank's Ease of Doing Business Rankings (forthwith referred to as the Doing Business Rankings) do significantly improve FDI inflows. However, countries undertaking relatively more reforms as proxied by large improvements in the Doing Business rankings do not significantly attract greater FDI inflows than other countries. Further, when restricting the sample to 56 developing countries, the relationship between improvements in rankings and FDI inflows is insignificant.

This paper is structured as follows. Section 2 outlines the determinants of FDI, section 3 explains the data and methodology used in the analysis, section 4 presents the results and section 5 concludes.

2. Determinants of FDI

Different researchers propose different models and variables when investigating the determinants of FDI (see for example Bergstrand and Egger 2007, Stein and Daude 2007 and Walsh and Yu 2010). Clearly the inclusion or exclusion of certain variables could materially influence the results of the analysis. As such, this paper considers various combinations of institutional variables and the key macroeconomic

variables of GDP growth, GDP per capita, the real exchange rate, inflation, openness and taxes that are generally accepted as likely to influence FDI inflows.

Researchers consistently use GDP, GDP growth, GDP per capita and/or other variants of GDP as determinants of FDI (Blonigen 2011, Alfaro, Chanda, Kalemli-Ozcan, Sayek 2009, Di Giovanni 2005 and Head and Ries 2008). Intuitively this appears reasonable. For example, high GDP growth may suggest large economies of scale (Dhakal, Rahman and Upadhyaya 2007) while high GDP per capita may indicate large market size (Walsh and Yu 2010) – both of which are attractive to FDI.

Real exchange rate valuation is also considered to influence FDI Inflows (Blonegen 2005). Blonegen (2005) explains that foreign firms may take advantage of a favorable exchange rate to purchase relatively cheaper goods in a host country while Froot and Stein (1991) and Klein and Rosengren (1994) empirically show that currency depreciation encourages FDI inflows.

Controlling for inflation is also an important factor. If a host country's currency is inflating at a high rate, then any profits generated in that country would be worth less to the parent country. Walsh and Yu (2010) use inflation in their analysis of FDI inflows.

The influence of taxes in encouraging or discouraging FDI Inflows is dependent on the type of tax. For example, whether countries have a double taxation policy in place (Scholes and Wolfson 1990) and differences in corporate income taxes and indirect business taxes (Desai, Foley and Hines 2001) could have unique influences on FDI Inflows. As the influence of tax rates on FDI inflows are uncertain, this paper will separately consider the impacts of tax on corporate profits as a percentage of revenues and tax on international trade as a percentage of revenues on FDI inflows. Regression analysis using no tax will also be considered.

A country's openness, defined as the percentage of imports and exports over GDP, may also influence FDI Inflows. Moreover, FDI may be attracted to countries with greater propensity to trade. Marson and Abdhulla (2010) find a positive significant relationship between openness and FDI Inflows in ASEAN countries while Walsh and Yu (2010) find no significant relationship between openness and FDI as a share of GDP in a sample of emerging market and developing countries.

Finally, the quality of a country's institutions is incorporated into the analysis. Literature considers this to include areas such as labor flexibility, infrastructure quality, financial depth, judicial independence, legal system efficiency, corruption control, political stability and absence of violence, government effectiveness and regulatory quality. Some papers suggest strong private property rights and legal rights encourage FDI Inflows (Knack and Keefer 1995, Kostevc, Redek and Susjan 2007 and Masron and Abdhulla 2010) while others find no or little correlation between a country's institutions and FDI inflow (Stein and Daude 2007, Walsh and Yu 2010 and Ghosh 2007).

This paper considers the Doing Business Rankings, which ranks countries according to their Ease of Doing Business, as an institutional variable. For robustness purposes, it separately considers relevant components of the rankings including ease of starting a business, registering property, getting credit, protecting investors, paying taxes, trading across borders and enforcing contracts. As additional

institutional variables, this paper also includes the World Bank's Governance Indicators (forthwith referred to as Governance Indicators) which rank political stability and absence from violence, corruption control, voice and accountability, regulatory quality, rule of law and government. An aggregate World Bank Governance Ranking, based on a simple average of the component indicators, is also included in some regressions. Different combinations of the Doing Business Rankings/components and the Governance Indicators are used to ensure robustness of results and counter possible multicollinearity. For example, arguably the Governance Indicators of government effectiveness, regulatory quality and rule of law are captured within the Doing Business components of starting a business and enforcing contracts – any correlation should be addressed in regression analysis.

Literature has extensively used the Doing Business Rankings and corresponding components in analysis (the World Bank Doing Business website lists more than 100 academic papers). Eifert (2009) focuses on individual components of the Doing Business Rankings and find improvements in the time taken to enforce contracts stimulates growth. However, Eifert (2009) fails to consider the aggregate impacts of all the Doing Business components. Conversely, Djankov, McLiesh and Ramalho (2006) do focus on aggregate impacts using cross-sectional analysis with fixed country effects. They show countries with a higher Doing Business Ranking in 2004 significantly influences growth. Surprisingly, Djankov *et al.* (2006) use as their dependent variable, the average GDP growth from 1993 to 2002 and estimate Doing Business Rankings using 2004 data (official rankings were not available until 2006). This approach could bias results as country rankings change over time and different results would be recorded when using data from alternative years.

Busse and Groizard (2008) use a separate set of fixed country effects when undertaking their cross-sectional analysis on the influences of selected components of the World Bank's Ease of Doing Business measures on GDP growth. Like Djankov *et al.* (2006), they also artificially create a rankings system but do so by creating a dummy variable of the 20 most regulated economies. They find countries with lower levels of regulation are more likely to stimulate growth. While the results are encouraging, the creation of a dummy variable reduces the richness of the data available for analysis and the authors do not disaggregate between developed and developing countries.

This paper expands on Busse and Groizard (2008), Djankov *et al.* (2006) and Eifert (2009) by using a more robust panel data set as opposed to cross-sectional analysis, considering the aggregate impact of reforms (as captured by the official World Bank rankings as opposed to artificially creating rankings), disaggregating impacts to developing countries and focusing specifically on the impact of Doing Business reforms on FDI inflows as opposed to the impacts on GDP growth.

3. Data and Methodology

The study estimates the influence of the Doing Business Rankings (DBR), across approximately 84 countries, using data from the period when rankings officially began in 2006 to 2009. While there were 175 countries ranked in 2006, the number used in regression analysis varies due to the use of an unbalanced panel. The 2006 and 2007 rankings were gathered from the 2007 Doing Business report, the

2008 rankings from the 2008 Doing Business report and the 2009 rankings from the 2009 Doing Business report. Important to note is between 2006 and 2009, an extra 6 countries were added to the rankings. These 6 countries were not included in the preceding analysis with the remaining countries re-ranked under the assumption that only the 175 countries, available in 2006, existed. This approach does not materially change any results. Some regressions, that *do not* include the Doing Business Rankings, will be undertaken using data from 2004 to 2009.

Recall the Doing Business Rankings are determined by various components. These, determinants were sourced directly from the World Bank's Ease of Doing Business website. The following table summarizes the components of the Ease of Doing Business and the corresponding indicators used in this paper.

Table 1 - World Bank's Ease of Doing Business

Selected Components	Selected Indicators	Acronym
Starting a Business	Time (days)	SBT
	Cost (% of income per capita)	SBC
Registering Property	Time (days)	RPT
	Cost (% of income per capita)	RPC
Protecting Investors	Strength of investor protection index (0-10)	IPS
Paying Taxes	Payments (number per year)	TPN
Trading Across Borders	Time to export (days)	XT
	Cost to export (US$ per container)	XC
	Time to import (days)	IT
	Cost to import (US$ per container)	IC
Enforcing Contracts	Time (days)	ECT
	Cost (% of claim)	ECC

Other indicators were not included due to limited perceived relevance (eg: closing a business) and due to potential multicollinearity (eg: time to start a business was selected over number of procedures required to start a business).

Determinants of governance were sourced from the World Bank's Governance Indicators website. These include political stability and absence from violence (PV), corruption control (CC), voice and accountability (VA), regulatory quality (RQ), rule of law (RL) and government effectiveness (GE).

GDP growth data (GDPGR), GDP per capita (GDPCAP), Openness (OPEN), FDI inflow data (FDI_INF_Norm), the real exchange rate (REER), inflation rate (INF), the tax on corporate profits as a percentage of revenues (TAXPROFIT) and tax on international trade as a percentage of revenues (TAXINT) were sourced from the World Bank's Development Indicators.

Any panel analysis with FDI inflows as the dependent variable would require instrumenting GDP growth, GDP per capita, the real exchange rate and openness given potential reverse causality between these endogenous variables. Further, it would have to instrument the exogenous variables while also considering country fixed effects (such as geographic location) that are unlikely to change significantly over the short time period in question.

As such, this paper follows a similar recent study undertaken on FDI flows (Walsh and Yu 2010) and uses the Arellano-Bond methodology that accounts for fixed effects in large cross-sectional and small time series panels. A gravity model (Dabla-Norris, Honda, Lahreche and Verdier 2010) was not used as it

focuses on bilateral trade flows, usually from developed countries to developing countries. Moreover, similar gravity models would ignore large FDI outflows emanating from emerging economies such as China and India.

For this paper, the following model is regressed:

$$Y_{it} = a + \gamma Y_{i,t-1} + \beta X'_{\mathrm{it}} + \theta Z_{it} + \lambda W_{it} + u_i + \varepsilon_{it} \quad (1)$$

where Y represents FDI inflows, X represents a vector of macroeconomic variables, Z represents the variable(s) of interest (Doing Business Ranking as per Table 2, components of the Doing Business Rankings as per Table 4 or Doing Business Rankings restricted to Developing Countries as per Table 5), W represents the Governance Indicators or an artificially created World Bank Governance Rank and u represents the country-fixed effects. Different macroeconomic variables and combinations of the Doing Business Rankings/Indicators and Governance Indicators are used to test the robustness of results and counter possible multicollinearity. The model is also separately estimated with an additional 2009 time dummy variable as the financial crisis would likely have reduced FDI inflows.

Further, Klapper and Love (2010) produce models using a dummy variable to denote countries that have undertaken significant reforms. Similarly, for the purposes of this paper, the DBR variable from equation (1) is replaced with a dummy for countries that have improved by greater than 9 places on the Doing Business Rankings from 2006 to 2007, 2007 to 2008 and 2008 to 2009 (D09). Separate analysis is also undertaken replacing the DBR variable with a dummy denoting countries that have improved greater than 4 places on the Doing Business Rankings (D04). This is important given that Klapper and Love (2010) find countries making broader reforms have greater impact on new firm registration. The analysis incorporating reform dummies would show whether the Klapper and Love (2010) finding translates into FDI Inflows; i.e. whether countries making greater reforms (as denoted by large increases in the Doing Business Rankings) are more likely to generate greater FDI inflows.

To remove the fixed effects from equation (1), a difference-in-difference approach is used such that the following equation is regressed:

$$\Delta Y_{it} = \Delta X_{it} + \Delta Z_{it} + \Delta \varepsilon_{it} \quad (2)$$

To remove the problem of serial correlation between the error term and the dependent variable and ensure strong instruments are used, the first lagged level and lagged differences of the endogenous variables and exogenous variables are used as instruments as per the system GMM approach (Blundell and Bond 1998). The instruments used are stronger than those available under a traditional two-squares least squares approach and thus makes the results more efficient (Roodman 2009) while the system GMM approach also allows observation from t-1 to be included in the analysis. The endogenous lags are restricted to one time period (both the first and second lags are regressed separately to ensure validity of results) to reduce the number of instruments and improve the prospects that the *p*-value for the Hansen J test, which tests the null of joint validity of all instruments, is between 0.1 and 0.25. If the *p*-value from the test is greater than 0.25, it may imply that too many instruments have been used which produces standard errors that are downward biased (Roodman 2009). Finally, robust standard

errors are used to account for possible instances of multicollinearity and heteroscedasticity in all models.

4. Results

Table 2 shows the Doing Business Ranking indicator is significant under multiple specifications. This implies on average, an increase in the Doing Business Rankings significantly increases FDI inflows by approximately 300 million USD. Note, as the lowest ranking is 175 and the highest ranking is 1, a negative coefficient of the DBR variable in the tables implies an improvement in rankings. The same levels of significance hold when using the first lag or the second lag of endogenous variables as instruments.

Table 2, columns D and E, which include tax variables, do not appear to be the strongest models given the insignificance of the GDP growth variable and the high *p*-value for the Hansen J test. Further, the model regressed in Column I also appears inappropriate given the significant *p*-value for the Hansen J test. Column F, which omits GDP per Capita in its analysis, is the only appropriate model suggesting on average, improvements in a governance variable, corruption control, positively and significantly influences FDI Inflows. As opposed to the Doing Business Rankings, a higher numerical number for the World Bank's Governance Rankings represents a higher ranking than a lower numerical number.

When including a time dummy for 2009 the DBR variable in Column A loses significance, albeit only slightly (*p*-value 0.108). The DBR variable across all other specifications remains significant while the magnitude of the DBR coefficients remain approximately the same. When removing the 2009 data altogether none of the DBR variables in Table 1 lose significance while the coefficients of the DBR variable become greater in absolute magnitude.

Table 3 illustrates that in most cases D09 reform dummies are insignificant when replacing the DBR variable in equation (1). Note the *p*-value for the Hansen J test is most appropriate in Columns A and I. This result holds when undertaking regressions using the D04 dummies in place of the D09 dummies and when including dummies for 2009. Hence it appears the Klapper and Love (2010) result on the significant influence of large scale reforms on increasing firm registration does not translate to increasing FDI inflows.

Table 4 shows the results when regressing relevant indicators of the Doing Business Rankings (as opposed to the Doing Business Rankings themselves). It shows that in at least 3 out of 5 models, on average, reductions in the time and cost taken to enforce contracts is significantly correlated with higher FDI Inflows. Note, the models captured in Columns C and D appear to be mis-specified as the variable XC, which relates to the cost of exports, is positive when a-priori it would be expected that reductions in the cost of exports would improve FDI Inflows and not vice versa. The regression in Column E also has a high Hansen J test *p*-value of 0.39 which may imply this is not an appropriate model (although the Hansen J test *p*-value reduces to a reasonable 0.16 when using the second lag instead of the first lag for endogenous variable instrumenting purposes).

Table 5 illustrates the results when focusing on developing countries in isolation (data is available for approximately 56 countries). It notes while there is a favorable relationship between improvements in the Doing Business Rankings and FDI, the relationship is insignificant. The coefficients are also smaller than the case when including all countries in the analysis (i.e. results from Table 2). This heterogeneity in results between developing countries and all countries may provoke deeper analysis by researchers who do not distinguish between developing and developed countries when estimating the impacts of Ease of Doing Business indicators (Busse and Groizard 2008 and Djankov *et al.* 2006). Including a time dummy for 2009 does not increase the significance of the DBR variable while reform dummies are also insignificant when replacing the DBR variable.

Why is there an insignificant correlation between the Doing Business Rankings and FDI Inflows for developing countries? One reason could be improvements in Doing Business rankings, which represents the formal time and costs involved with fully complying with regulations, may not necessarily translate to the actual experiences of a wide range of firms. Hallward-Driemeier and Pritchett (2011) show there is a disconnect between policy and policy implementation; they note that *reduction* in Doing Business days for compliance is likely accompanied by *increases* in actual days for compliance across a survey of firms. This discrepancy "could reflect greater enforcement or compliance" after the policy is implemented (Hallward-Driemeier and Pritchett 2011:6).

Does this imply developing country governments should focus on compliance and ignore making improvements in Ease of Doing Business altogether when trying to attract FDI? Not necessarily. It is important to note the results of this paper apply for the average developing country using data across a sample of 56 developing countries. Moreover one individual country may reap strong benefits from FDI inflows as a result of improvements in the Doing Business Rankings. A longer time period with richer data will help answer this question for individual countries and perhaps provide more opportunity for changes in the business environment to attract FDI Inflows.

Do the overall results suggest governments can focus on particular institutional areas to attract FDI inflows? Perhaps improvements in the time taken and cost to enforce contracts may assist in this endeavor. However if governments simply focus on this area and neglect others, their Doing Business Rankings will slip. Thus, the Eifert (2009) model could be mis-specified as it fails to consider the aggregate impact of reforms. Moreover, as shown in Table 2, the improvements in the Doing Business Rankings are likely to positively influence FDI inflows. Hence rather than focusing on enforcing contracts, it is possible improvements in the *average* country's Doing Business Ranking present a signalling effect to external investors that its business environment is becoming more favorable to foreign investment. This hypothesis is given stronger credence by the fact that Aghion, Philippe, Blundell, Griffith Howitt and Prantl (2008) and Kaplan, Piedra, and Seira (2007) suggest that a combination of reforms has greater impact than business entry reforms in isolation. However, it contradicts the approach used by Busse and Groizard (2008) that only selects Doing Business indicators they believe are strongly related to FDI inflows.

5. Conclusion

Using panel data of approximately 84 countries from 2006 to 2009, this paper is the first to show empirically that for the *average* country, improvement in the official Doing Business Rankings is likely to increase FDI into a country. While improvements in some determinants of the Doing Business Ranking are indeed correlated with greater FDI inflows, it is perhaps improvements in the Doing Business Rankings of the average country that act as a strong signalling effect to investors. Nevertheless, there appears to be no evidence to suggest large improvements in Doing Business Rankings (i.e. 'reform' countries) attract significantly greater FDI inflows.

When focusing on developing countries in isolation, the relationship is insignificant. This result should be taken with caution given it refers to the average developing country across a four year time period. A more complete picture of the influence of Doing Business Rankings on FDI inflows may be available as more data becomes available.

As countries are not homogenous, it would be interesting to note how improvements in the Doing Business Rankings influence FDI inflows into countries of different economic sizes. For example, would improvements in the Doing Business Rankings for smaller economies such as those in the Pacific Island countries lead to greater FDI inflows or is this correlation stronger among larger economies such as India, Vietnam or Brazil? Similarly, analysis could be undertaken across geographical areas. Are investors more likely to favor African countries relative to Asian countries given similar changes in the Doing Business Rankings or would their focus largely be on Europe or the Americas? Again, as more data become available, researchers and policy makers should be able to investigate the answers to these questions. This may also encourage, or discourage, governments to improve their Doing Business Rankings.

Finally the relationship between improvements in the Doing Business Rankings and GDP growth using panel data could also be undertaken.

Table 2 - Influence of Doing Business Rankings on FDI Inflows into Developed and Developing Countries
Dependent Variable: Value of FDI Inflows (100s of million USD)
GMM based on the Arellano-Bond methodology

	Column A	Column B	Column C	Column D	Column E	Column F	Column G	Column H	Column I	Column J
DBR	**-2.50***	**-2.64***	**-2.97****	-2.29	-2.57	**-3.19***	**-3.94****	**-4.22****	**-2.53****	
	1.48	*1.48*	*1.49*	*1.62*	*2.02*	*1.66*	*1.42*	*1.57*	*0.85*	
GDPGR	**9.77****	**7.81****	**9.21****	4.36	0.92	**9.65****	**6.61****	**9.79****	**6.34****	1.97
	3.86	*3.52*	*3.72*	*4.26*	*5.39*	*4.23*	*3.25*	*4.19*	*2.65*	*2.05*
GDPCAP	**0.01***	**0.01***	**0.01***	0.01	**0.02****					**0.01****
	0	*0*	*0.00*	*0.00*	*0.01*					*0.01*
REER	3.01	3.22	2.73	4.01	5.36	**4.41***	0.07	3.08	0.43	0.03
	2.53	*2.5*	*2.61*	*3.05*	*3.96*	*2.38*	*0.41*	*2.41*	*1.96*	*1.89*
INF	-1.89	-0.56	-2.44	-1.20	-1.39	-2.68		-4.83	-3.37	2.97
	4.43	*4.59*	*4.26*	*5.26*	*6.52*	*3.99*		*3.69*	*2.82*	*2.53*
OPEN	-6.18	-6.03	-6.15	-4.49	-7.38	-6.26	-5.88	-6.28		-2.52
	4.74	*4.23*	*4.67*	*3.04*	*4.62*	*4.67*	*4.64*	*4.90*		*3.38*
TAXPROFITS				2.92						
				3.60						
TAXINT					5.47					
					5.57					
VA		-6.55*		-7.02	**-13.32****	-5.30				-4.08
		3.96		*5.31*	*6.53*	*4.05*				*4.38*
PV		0.92		1.19	**6.60***	1.07				-1.03
		2.54		*3.27*	*3.99*	*2.90*				*2.86*
CC		3.78		5.48	3.39	**5.98***				-0.97
		2.91		*3.88*	*3.74*	*3.22*				*1.91*
GOV			-1.72							
			2.51							
GE										0.52
										2.84
RQ										3.69
										3.09
RL										0.96
										2.14
Hansen J test	0.19	0.37	0.25	0.52	0.63	0.17	0.20	0.14	0.03	0.19
No. of observations	323	323	323	216	182	323	331	323	340	511
No. of groups	84	84	84	61	53	84	85	84	86	89
No. of instruments	43	46	44	47	47	38	35	35	27	58

Standard errors corrected for robustness in italics.

*** Significance at the 1 percent level, ** Significance at the 5 percent level, * Significance at the 10 percent level.

A negative coefficient for the DBR variable suggests on average, an increase in the Doing Business Ranking will increase FDI Inflows all else constant (i.e. higher rankings are a lower numerical value). For the remaining variables, the opposite is true; an increase in that variable suggests, on average, an increase in FDI Inflows all else constant.

Table 3 - Influence of Large Doing Business Rankings Improvements (greater than 9 ranking places) on FDI Inflows into Developed and Developing Countries

Dependent Variable: Value of FDI Inflows (100s of million USD)

GMM based on the Arellano-Bond methodology

	Column A	Column B	Column C	Column D	Column E	Column F	Column G	Column H	Column I
REFORMS	122.77	106.06	**130.10***	98.41	42.03	106.76	88.29	**117.30***	103.02
	76.26	*71.36*	*78.34*	*88.13*	*104.49*	*72.02*	*71.64*	*69.54*	*65.2*
GDPGR	5.38	3.28	4.51	3.41	-1.37	**7.81****	-3.71	0.03	0.72
	3.54	*3.46*	*3.48*	*4.6*	*5.6*	*3.33*	*4.54*	*4.04*	*3.53*
GDPCAP	**0.01****	**0.01****	**0.01****	**0.01***	**0.02****				
	0	*0.01*	*0.01*	*0.01*	*0.01*				
REER	0.97	0.95	0.43	3.38	5.55	1.28	-0.56	-3.18	-2.95
	2.19	*2.14*	*2.25*	*3.05*	*4.06*	*1.74*	*0.77*	*3.27*	*2.7*
INF	-1.87	-1.59	-2.76	-0.36	0.83	-7.27*		**-14.23****	**-15.66****
	5.2	*5.03*	*5.04*	*6.19*	*6.83*	*3.94*		*5.87*	*5.04*
OPEN	-3.24	-2.81	-3.24	-2.58	-6.69	0.8	2.17	1.9	
	3.06	*3.17*	*3.07*	*3.16*	*4.24*	*3.27*	*2.64*	*2.58*	
VA		-3.88		-5.47	**-12.28***	2.37			
		4.03		*7.01*	*6.97*	*3.61*			
PV		-1.16		0.08	5.59	**-4.23***			
		2.42		*3.87*	*3.67*	*2.36*			
CC		2.39		2.31	4.7	5.36			
		3.02		*4.59*	*4*	*3.77*			
GOV			-2.06						
			2.44						
TAXPROFITS				4.94					
				3.75					
TAXINT					2.66				
					4.9				
Hansen J test	0.24	0.33	0.31	0.48	0.49	0.34	0.52	0.45	0.14
No. of observations	248	248	248	163	136	248	254	248	264
No. of groups	88	88	88	63	54	88	89	88	90
No. of instruments	38	41	39	42	42	34	30	31	24

Standard errors corrected for robustness in italics.

*** Significance at the 1 percent level, ** Significance at the 5 percent level, * Significance at the 10 percent level.

A negative coefficient for the DBR variable suggests on average, an increase in the Doing Business Ranking will increase FDI Inflows all else constant (i.e. higher rankings are a lower numerical value). For the remaining variables, the opposite is true; an increase in that variable suggests, on average, an increase in FDI Inflows all else constant.

REFORM represents a dummy for countries that have improved by greater than 9 places on the Doing Business Rankings from 2006 to 2007, 2007 to 2008 and 2008 to 2009 (D09)

Table 4 - Influence of Components of the Doing Business Rankings on FDI Inflows into Developed and Developing Countries

Dependent Variable: Value of FDI Inflows (100s of million USD)

GMM based on the Arellano-Bond methodology

	Column A	Column B	Column C	Column D	Column E
SBT	1.94	1.33	1.33	1.5	1.62
	1.71	*1.72*	*1.83*	*1.52*	*1.85*
SBC	0.02	-0.01	0.07	0.05	-0.04
	0.09	*0.09*	*0.06*	*0.08*	*0.08*
RPT	0.16	0.15	0.03	0	0.22
	0.24	*0.23*	*0.23*	*0.22*	*0.25*
RPC	5.45	3.48	1.41	1.74	3.31
	6.47	*6.45*	*5.23*	*5.83*	*5.46*
IPA	45.15	54.27	30.75	39.94	48.71
	41.72	*41.56*	*46.31*	*44.49*	*43.71*
TPN	-0.35	-0.83	**-2.57***	**-2.84****	-0.73
	1.41	*1.26*	*1.38*	*1.41*	*1.2*
XT	2.59	3.59	-7.77	-9.45	3.9
	6.48	*6.7*	*5.38*	*5.94*	*5.56*
XC	0.02	-0.02	**0.17****	**0.18****	-0.02
	0.07	*0.08*	*0.07*	*0.08*	*0.08*
IM	-5.2	**-8.12***	-3.77	-4.64	**-8.36***
	4.06	*4.76*	*4.25*	*4.25*	*4.6*
IC	0	0.04	-0.05	-0.05	0.06
	0.06	*0.08*	*0.06*	*0.06*	*0.07*
ECT	-0.29	**-0.29***	**-0.40****	**-0.42****	**-0.26***
	0.18	*0.17*	*0.19*	*0.21*	*0.14*
ECC	-1.55	**-2.06***	**-1.89***	**-2.32***	-1.44
	1.17	*1.19*	*1.02*	*1.24*	*0.95*
GDPGR	7.84	**8.26***	**11.48****	**11.75****	6.38
	4.97	*4.72*	*4.22*	*4.81*	*3.93*
GDPCAP	**0.01***	**0.01***			**0.01***
	0.01	*0.01*			*0.01*
REER	1.7	0.99	1.81	1.33	0.62
	2.78	*2.85*	*2.15*	*2.43*	*2.65*
INF	1.89	1.84	0.62	1.81	2.5
	4.61	*4.64*	*4.19*	*3.96*	*4.86*
OPEN	-5.03	-4.91	-3.04	-4.07	-3.98
	3.89	*3.74*	*4.43*	*4.15*	*3.84*
GOV		-4.49			
		3.42			
VA			-0.84		-4.71
			4.6		*4.41*
PV			-1.44		-0.62
			3.36		*3.1*
CC			2.88		0.85
			2.36		*2.62*
Hansen J test	0.23	0.40	0.13	0.14	0.39
No. of observation	327	327	327	327	327
No. of groups	86	86	86	86	86
No. of instruments	54	55	49	46	57

Standard errors corrected for robustness in italics.

*** Significance at the 1 percent level, ** Significance at the 5 percent level, * Significance at the 10 percent level.

A negative coefficient for the first 11 variables suggests on average, an increase in that variable will increase FDI Inflows all else constant (i.e. higher rankings are a lower numerical value). For the remaining variables, the opposite is true; an increase in that variable suggests, on average, an increase in FDI Inflows all else constant.

Table 5 - Influence of Doing Business Rankings on FDI Inflows to Developing Countries
Dependent Variable: Value of FDI Inflows (100s of million USD)
GMM based on the Arellano-Bond methodology

	Column A	Column B	Column C	Column D	Column E	Column F	Column G	Column H	Column I
DBR	-1.47	-1.37	-1.07	-0.58	-0.6	-1.48	-1.81	-1.91	**-0.36***
	1.01	*1.01*	*0.9*	*1.07*	*0.95*	*1.09*	*1.25*	*1.23*	*0.19*
GDPGR	11.68	10.56	11.99	9.49	8.41	12.01	8.56	12.74	11.03
	8.64	*7.01*	*8.84*	*7.01*	*6.47*	*7.32*	*6.35*	*8.77*	*9.11*
GDPCAP	**0.00****	**0.00****	**0.00***	**0.01***	**0.01***				
	0	*0*	*0*	*0*	*0*				
REER	2.99	3.02	3.16	3	3.26	3.47	-0.1	3.25	2.88
	2.91	*2.65*	*2.97*	*3.19*	*3.41*	*2.71*	*0.26*	*2.94*	*2.83*
INF	-8.1	-4.83	-8	-3.1	-2.62	-5.56		-8.64	-5.62
	6.61	*4.02*	*6.58*	*4.02*	*3.68*	*4.03*		*6.34*	*5.17*
OPEN	-4.16	-4.31*	-4.09	-4.42	-3.49	**-4.93***	-4.6	-4.92	
	2.81	*2.61*	*2.74*	*3.17*	*2.62*	*2.84*	*3.57*	*3.31*	
VA		-3.46		-6.32	-6.19	-3.26			
		2.69		*4.71*	*4.8*	*2.67*			
PV		2.43		5.71	4.88	2.81			
		2.01		*4.32*	*3.86*	*2.16*			
CC		1.5		0.59	0.96	1.79			
		1.78		*2.6*	*2.09*	*1.88*			
GOV			1.23						
			1.23						
TAXPROFITS				-0.6					
				1.51					
TAXINT					1.74				
					3.1				
Hansen J test	0.26	0.17	0.28	0.93	0.75	0.19	0.26	0.15	0.01
No. of observations	218	218	218	125	129	218	226	218	232
No. of groups	57	57	57	36	38	57	58	57	59
No. of instruments	43	46	44	47	47	38	34	35	27

Standard errors corrected for robustness in italics.

*** Significance at the 1 percent level, ** Significance at the 5 percent level, * Significance at the 10 percent level.

A negative coefficient for the DBR variable suggests on average, an increase in the Doing Business Ranking will increase FDI Inflows all else constant (i.e. higher rankings are a lower numerical value). For the remaining variables, the opposite is true; an increase in that variable suggests, on average, an increase in FDI Inflows all else constant.

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